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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/053,169

11/02/2001

Armin Weiss

30014200-1011

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07/12/2004

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EXAMINER

HAVAN, THU THAO

ART UNIT

PAPER NUMBER

2672

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/053,169

Applicant(s)

WEISS, ARMIN

Examiner

Thu-Thao Havan

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-11,13-20 and 22-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-11, 13-20, 22-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Claims 1-2, 4-11, 13-20, and 22-28 are pending in the present application.

Response to Arguments

Applicant's arguments filed April 5, 2004 have been fully considered but they are not persuasive. As addressed below, Hanratty teaches the claimed limitations.

Hanratty discloses rotating the objects of each layer around a common rotational axis to form the three-dimensional rotational image having a maximum rotational angle around the rotational axis with each object in a first of the layers having a minimum rotational angle and objects in layers other than the first layer having a rotational angle greater than the minimum rotational angle and less than or equal to the maximum rotational angle (col. 36, line 6 to col. 37, line 35). In other words, Hanratty teaches an axis of rotation is then defined according to whether the working view is the front or back view. In the front view, the axis of rotation is defined as the YMIN line. In the back view, the axis of rotation is defined as the YMAX line. In that, Hanratty discloses the system defines a rotation point along an extension of OCSEND which falls outside the current view. The exact placement of this point is not critical, as long as it lies outside the current view. The point is defined to be 0.1 inches outside the current view. After defining a rotation point, a rotation angle is defined as the angle that MATCHCURV makes with the positive X-axis. The system then determines the

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actual work view number (i.e., the number corresponding to the particular oblique view of interest) then rotates a number of curves and curve sets counter clockwise about the rotation point by ROTANG degrees. The curves rotated about this point suitably comprise: 1) the top main boundary, 2) the entire oblique view, 3) the active curve set, and 4) the OCSEND curve.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims **1-2, 4-11, 13-20, and 22-28** are rejected under 35 U.S.C. 102(e) as being unpatentable by Hanratty (US patent no. 5,990,897).

Re claim **1**, Hanratty teaches a method in a data processing system for producing a three-dimensional rotation image from a two-dimensional image including a plurality of objects (col. 3, lines 11-18; fig. 3), the method comprising the steps of assigning each object to one of a plurality of sequential layers that correspond to visually depicted depths of the objects in the two-dimensional image (col. 3, lines 18-55), rotating the objects of each layer around a common rotational axis to form the three-dimensional rotational image having a maximum rotational angle around the rotational axis with each object in a first of the layers

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having a minimum rotational angle and objects in layers other than the first layer having a rotational angle greater than the minimum rotational angle and less than or equal to the maximum rotational angle (col. 36, line 6 to col. 37, line 35), and rotatively displaying the objects to produce the three-dimensional rotational image (col. 32, line 45 to col. 34, line 41). In other words, Hanratty discloses an engine which has as its input two-dimensional drawing views wherein the engine produces a three-dimensional geometric solid. In that figure 3 is an example of a two-dimensional drawings corresponding to five views of a three-dimensional object. The two-dimensional drawing data portraying multiple parts--for example, exploded views of interacting components--may be converted into a group of corresponding geometric solids. A base solid may be generated using the rotational sweep technique in accordance with one aspect of the present invention by ascertaining the profile of the three dimensional object and rotating that profile about the axis of symmetry. This may suitably be accomplished through the use of computing the locus of points resulting from a curve rotated in arbitrarily small increments about a straight line. Wherein an axis of rotation is then defined according to whether the working view is the front or back view. In the front view, the axis of rotation is defined as the YMIN line. In the back view, the axis of rotation is defined as the YMAX line. In that the key transformations will take place out of the drawing plane--that is, much in the same way a finished section of framed wall is lifted from the ground and manipulated into place during a barn-raising, portions of the front or back views will be rotated out of the page and positioned advantageously with respect to the main solid. The base solid

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was swept in such a way that it "exists" below the drawing plane. In addition, Hanratty an axis of rotation is then defined according to whether the working view is the front or back view. In the front view, the axis of rotation is defined as the YMIN line. In the back view, the axis of rotation is defined as the YMAX line.

Re claims **2, 11, and 20**, Hanratty discloses the objects are assigned to the layers so that within a given layer the object assigned to that layer neither overlaps with nor is included within another object in the given layer (figs. 3-4).

Re claims **4, 13, and 22**, Hanratty discloses three-dimensional rotational image is symmetrical with respect to a plane in which the rotational axis is located (col. 18, line 1 to col. 20, line 51). In other words, Hanratty teaches a base solid may be generated using the rotational sweep technique by ascertaining the profile of the three dimensional object and rotating that profile about the axis of symmetry. This may suitably be accomplished through the use of computing the locus of points resulting from a curve rotated in arbitrarily small increments about a straight line.

Re claims **5, 14, and 23**, Hanratty discloses when rotatively displaying the objects, modifying an area of each object by a predetermined scaling factor (col. 21, line 30 to col. 22, line 67).

Re claims **6, 15, and 24**, Hanratty discloses prior to assigning the objects to the layers, ordering the objects in a sequence based on depths of the objects in the two-dimensional image (figs. 8a-8b). In other words, Hanratty teaches view sets derived from two dimensional drawing data are automatically ordered into plan view, front view, back view, and so on.

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Re claims **7-8, 16-17, and 25-26**, Hanratty discloses the objects are ordered so that the object having a greatest depth is first in the sequence and objects are assigned to one of the plurality of sequential layers, beginning with a first in the sequence (col. 13, line 43 to col. 14, line 67). In other words, Hanratty teaches examining the location of each view set with respect to the plan view and, given common drafting, design, and engineering conventions, labeling and ordering each of these view sets as front, back, and so on.

Re claims **9-10, 18-19, and 27-28**, the limitation of claims 9-10, 18-19, and 27-28 are identical to claims 1-2 and 4-8 above. Therefore, claims 10, 18-19, and 27-28 are treated with respect to grounds as set forth for claims 1-2 and 4-8 above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

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calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu-Thao Havan whose telephone number is (703) 308-7062. The examiner can normally be reached on Monday to Thursday from 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (703) 305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231


or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Thu-Thao Havan
Art Unit: 2672
July 7, 2004



MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600